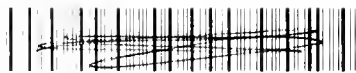


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Inspection of Commercial Fertilizers — 1986

BY LESTER HANKIN

*Bulletin 842
October 1986*

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Inspection of Commercial

Fertilizers — 1986

BY LESTER HANKIN

During 1986, 318 official samples of fertilizer were collected by inspectors of the Connecticut Department of Agriculture and analyzed by chemists of the Station for authenticity of guaranteed analysis that is stated on the label and for compliance with State Regulations. Other fertilizer samples were tested for farmers and Station research but are not included in this Bulletin. Although all guaranteed analyses were examined, only the results for the major plant nutrients of nitrogen, phosphoric acid, and potash are presented in this Bulletin.

Table 1 shows individual samples from 45 manufacturers. The numbers preceding the brand name are the guaranteed analyses. For example, 10-10-10, indicates the guaranteed percentage for nitrogen (N), phosphoric acid (P_2O_5), and potash (K_2O), in that order. The actual content is then shown, with deficiencies indicated by a dash (-) following the amount found. Table 2 summarizes for each manufacturer the number of guarantees examined for each plant nutrient, the percentage of samples not meeting their guarantee, and the average percentage of guarantee found. Table 3 shows the tonnage of the various grades of mixed fertilizer sold in Connecticut. Only grades prepared by at least three manufacturers are shown; other grades are placed in the miscellaneous category. The tonnage of fertilizer material and mixed fertilizer sold in Connecticut is shown in Table 4.

Two types of variability affect fertilizer analysis and must be considered in judging deficiencies. The first is the variability among different batches of the same grade from a manufacturer. This variability can be noted in Table 1 by examining the analyses of the same grade from the same manufacturer. The second type of variability is between duplicate analyses of the same sample. The variability among duplicate analyses is shown in the statement: the mean difference between duplicates for nitrogen, phosphoric acid, and potash is about two-tenths percent.

Fertilizer samples are deemed deficient in any nutrient if the analysis is below the guarantee by more than the values established by the Association of American Feed Control Officials. Overall, 311 guarantees for nitrogen were made and 4.5 percent were deficient, 298 guarantees for phosphoric acid and 9.1 percent were deficient, and 297 guarantees for potash and 8.8 percent were deficient. In 1985 the percentage of deficiencies for nitrogen were 7.7 percent, for phosphoric acid 8.7 percent, and for potash 13.7 percent. Thus there was a decline in percentage of deficiencies for nitrogen and potash, and deficiencies for phosphoric acid remained about the same. For the 318 samples reported in this Bulletin, 17.6 percent were deficient in at least one nutrient.

Analyses were performed by Helen Kocaba, Mamie Pyles, Mary Alice DeFrancesco, and Jerry Smart. Samples were collected by Marlene Abt, John Chapman, Jay Dippel, David Nisely, and Alton VanDyke under the direction of Kenneth Veit. Fertilizer laws are administered by the Commissioner of Agriculture.

Lester Hankin, Chief, Analytical Chemistry

TABLE 1--ANALYSIS OF INDIVIDUAL SAMPLES OF COMMERCIAL FERTILIZERS

Manufacturer, guarantee and brand				Nutrients found, %		
				N	P ₂ O ₅	K ₂ O
A. H. Hoffman, Inc.						
01	01	01	Cow Manure	1.2	1.0	1.1
Ag. Ind. Mfg. Corp.						
37			Sulfur Coated Urea	40.1		
Agricultural Prod. Co.						
05	10	05	All Purpose Plant Food	5.7	6.8-	5.2
10	06	04	Guardian Gro-Green Lawn Fert	10.3	6.1	4.0
Agway, Inc.						
	10	40	Blend-Rite Alfa B WB		9.4	44.7
	25	25	Agway Blend-Rite		24.9	27.0
04	12	04	Agway Bulb Bloomer Plant Food	4.5	19.2	5.7
05	10	05	Agway Garden Plant Food	4.8	9.4	5.8
05	10	10	Agway Blend-Rite	6.3	12.5	7.5-
08	16	16	Agway Super Garden Pl Fd Lawn St	7.4	14.4-	16.7
10	06	04	Agway Turfood Fert	10.7	10.0	4.6
10	10	10	Agway Blend-Rite	8.9-	9.8	8.4-
10	10	10	Agway Tree & Shrub Plant Food	11.1	10.0	11.0
10	20	20	Agway Blend-Rite	11.1	23.0	17.7-
12	16	32	Agway Bulk Blend	12.1	15.5	39.5
15	08	12	Agway Blend-Rite	15.0	9.0	12.1
16	32	16	Agway 10% Water Sol	15.7	33.1	15.9
19	10	25	Agway Bulk Blend	19.1	11.0	27.6
19	11	23	Agway Bulk Blend	20.1	11.2	24.7
20	20	20	Agway Sol-U-Green w/micronutr	19.7	21.7	21.7
20	20	20	Agway Sol-U-Green	21.9	21.3	20.7
20	20	20	Agway Sol-U-Green Plant Food	22.4	22.7	23.7
21	17	17	Agway Bulk Blend	21.2	16.3	24.2
22	06	08	Agway Greenlawn Plus	24.0	4.5-	10.4
23		28	Agway Bulk Blend	24.6		28
28	10	13	Agway Bulk Blend	29.7	11.6	19.4
30	10	10	Agway Acid Green	30.1	11.6	10.6
30	10	10	Agway Acid Green w/micronutrients	30.7	13.4	11.3
American Hdwe. Supply Co.						
01	01	01	Servi Star Composted Cow Manure	1.0	1.2	1.2
Atlas Fish Fertilizer Co.						
05	01	01	Atlas Fish Emulsion Plant Food	5.6	1.6	1.9
05	01	01	Atlas Fish Emulsion Plant Food	5.7	1.6	1.8
Cadwell & Jones						
4.23	7.16	3.19	C & J - HPLK	4.8	9.1	3.7
4.59	8.20	3.98	C & J BVHP w/Boron	4.9	8.7	5.9

TABLE 1--Continued

Manufacturer, guarantee and brand				Nutrients found, %		
				N	P ₂ O ₅	K ₂ O
Cadwell & Jones (Continued)						
4.6	9.7	7.0	C & J - HHPK #2	5.1	10.3	9.1
4.60	9.7	7.0	C & J - HHPK #1	4.9	11.1	11.3
4.64	4.41	6.27	C & J - Hadley LPVHK	5.6	3.9	5.5-
4.65	5.69	5.29	C & J - Hadley BHK	4.9	6.6	6.0
4.65	5.69	5.29	C & J - Clark BHK	4.8	6.4	5.2
4.65	5.69	5.29	C & J - BHK	4.8	6.7	6.2
4.68	7.07	4.14	C & J - Clark BHP	4.7	7.6	6.5
4.68	7.07	4.14	C & J - BHP	4.9	7.5	4.8
4.70	4.47	5.36	C & J - Hadley LPHK	4.5	5.0	7.4
4.73	7.16	3.19	C & J - Clarke HPLK	4.9	8.8	4.5
4.76	3.27	5.42	C & J - Hadley LLPHK #2	5.4	3.8	5.6
4.76	3.27	5.42	C & J - Hadley LLPHK #1	5.4	3.4	5.9
4.79	4.49	4.24	C & J - Hadley BLP #1	6.0	4.2	4.8
4.79	4.49	4.24	C & J - Hadley BLP #2	5.0	3.9	4.4
4.80	5.88	3.24	C & J - Clark BLK	5.3	7.3	4.1
4.85	3.33	4.29	C & J - Hadley LLP	5.2	3.2	5.0
4.88	2.38	4.32	C & J - Hadley VLLP	5.2	2.4	4.4
4.88	5.98	2.33	C & J w/Boron - Z Bulk	5.6	6.2	2.4
4.88	5.98	2.33	C & J Bulk w/Boron - 1	6.0	6.3	2.3
05	10	05	C & J Surge	5.0	8.1-	4.4
05	10	10	C & J Specialty	6.0	11.9	11.8
05	10	10	C & J Surge 25% Org Nit	4.1-	9.9	10.4
05	10	10	C & J Surge	5.1	10.3	9.2
05	10	10	C & J Surge	6.5	11.0	10.2
05	10	10	C & J Surge	6.0	5.2-	5.4-
5.40	3.80	3.70	C & J - Hadley LLPLKL Ca	6.0	3.9	4.2
07	07	07	C & J Surge Hi-Pro	6.0-	13.3	8.1
7.23	7.17	7.16	C & J - Clark Sidedress East	5.1-	9.3	8.3
7.23	7.17	7.16	C & J - Clark Sidedress West	8.3	10.8	7.3
7.23	7.17	7.16	C & J - Sidedress #1	8.0	10.2	7.6
7.23	7.17	7.16	C & J - Hadley Sidedress #2	5.8-	8.8	7.4
7.23	7.17	7.16	C & J - Hadley Sidedress #1	6.3-	8.8	9.0
7.23	7.17	7.16	C & J - Sidedress #2	7.5	7.2	8.5
10	02	08	C & J Specialty	12.1	1.4	8.1
10	06	04	C & J Surge Lawn & Garden Fert	10.2	5.6	3.7
10	06	04	C & J Surge	10.3	6.2	2.8
10	08	02	C & J Specialty Fert	12.6	10.0	1.9
10	10	10	C & J	10.2	9.4	9.6
10	10	10	C & J Specialty	11.4	10.0	11.0
10	10	10	C & J Specialty	10.3	10.2	9.3
10	20	20	C & J Specialty	10.3	23.2	23.3
15	10	10	C & J Bulk	15.4	9.8	10.9
20	10	10	C & J Super Surge	20.2	9.4	15.1
23	06	09	C & J Surge Lawn & Garden	25.5	6.1	10.6
30			C & J Specialty 50% SCU	31.7		
33	10	10	C & J Surge Turf Prod Soln	33.9	10.1	14.5
45			C & J Specialty Urea	45.2		

TABLE 1--Continued

Manufacturer, guarantee and brand				Nutrients found, %		
				N	P ₂ O ₅	K ₂ O
Cedar Point Supply						
46		Urea		44.5		
Chevron Chem. Co.						
03	10	03	Ortho U-Start Vit B-1 Plnt St	2.9	10.6	3.0
05	01	01	Ortho Fish Emulsion Fert	5.7	1.5	1.6
05	10	05	Ortho House Plant Fd + Minor Elem	5.6	9.6	5.5
06	09	05	Ortho Liq Afr Violet Fd	6.7	9.0	5.1
06	18	06	Ortho Tomato & Vegetable Food	6.8	18.5	6.3
08	10	08	Ortho Vegetable Food	8.6	10.6	9.0
08	12	04	Ortho Rose Food	10.9	14.9	4.9
10	07	07	Ortho Azalea/Camellia/Rhod Fd	10.8	8.7	8.3
10	08	07	Ortho Fern & Ivy Fd + Minor Elem	12.0	8.4	7.2
10	10	10	Ortho General Purpose Plant Food	11.0	10.4	10.5
10	12	06	Ortho Tomato Food	10.6	15.0	7.6
12	06	06	Ortho-Gro Liquid Plant Food	13.1	5.5	5.9
12	06	06	Ortho-Gro Liquid Plant Food	13.0	6.3	6.6
14	07	07	Ortho Evergreen, Tree & Shrub Fd	21.2	9.6	7.9
Clarel Laboratories, Inc.						
	06	05	Granny's Bl Bloss for Afr Violet		7.2	6.7
01	07	06	Cactus Juice for Cactus	0.8	6.8	6.1
02	05	04	Jungle Juice For All Fol Plants	2.4	5.9	5.8
Clinton Nursery Prod.						
04	10	10	New Era Flowering Plant Food	5.0	9.2	12.3
05	01	01	New Era Fish Emulsion	5.5	1.6	1.7
05	12	09	New Era Flowering Plant Food	6.2	13.5	10.5
07	15	08	New Era Plant Food	5.0-	14.8	9.3
08	08	08	New Era Plant Food	9.2	8.3	8.9
Crop Production Services						
	20		CPS Gran Super		22.1	
03	08	35	CPS w/Mg + Zn	5.4	10.9	30.7-
04	04	15	CPS w/Zn & Boron	5.0	3.3	19.2
04	04	15	CPS w/Zn & Boron	4.1	5.1	16.3
05	10	10	CPS	5.6	11.3	9.9
10	06	04	Agrico Village Green w/50% Org N	10.2	6.6	4.8
10	06	04	Agrico Village Green	10.1	6.7	7.0
10	08	10	CPS Tobacco	10.3	10.3	10.3
10	10	10	Agrico Village Green Specialty	7.9-	11.2	10.3
10	10	10	CPS	10.3	11.1	10.0
10	10	10	CPS	10.0	10.7	14.4
10	10	10	Agrico Village Green Specialty	10.0	8.0-	9.4
10	20	20	CPS	10.6	16.8-	16.9-
15	10	10	CPS	16.1	14.2	6.7-
15	15	15	CPS	16.8	18.5	12.8-

TABLE 1--Continued

Manufacturer, guarantee and brand				Nutrients found, %		
				N	P ₂ O ₅	K ₂ O
Crop Production Services (Continued)						
19	19	19	CPS	16.3-	18.6	20.9
20	10	10	CPS	21.4	10.0	23.7
21	10	10	Agrico	23.4	11.8	11.8
24	06	10	Agrico Village Green Spec 40% Org	24.6	6.8	10.5
Dexol Industries						
05	02	02	Dexol Fish Emulsion	5.2	3.2	1.8
05	02	02	Dexol Fishol Fish Emulsion	6.3	3.0	2.6
10	10	05	Dexol Tender Leaf House Plant Fd	10.3	9.9	5.2
10	10	05	Dexol Tender Leaf House Plant Fd	10.4	10.3	5.8
Earth Gro						
01	01	01	Valley Farms Composted Cow Manure	1.3	0.6-	0.4-
Espoma Co.						
04	03	02	Espoma Plant-tone/Bedding Plants	6.2	8.0	2.7
04	06	04	Espoma Holly Tone	5.8	7.9	6.8
04	07	10	Espoma High Organic Tomato Food	5.8	12.7	8.6-
04	12		Espoma Bone Meal	5.4	20.9	
Estech, Inc.						
	20		Gro-Tone Super Phosphate		20.8	
04	10	10	Vigoro Evergreen Food	6.0	7.2-	10.0
05	10	05	Perk-Up Fert Plant Food	6.1	9.3	4.8
05	10	10	Red Steer Fert	5.6	6.4-	7.7-
06	08	06	Gro-Tone Evergreen Food 30% Org N	6.2	5.4-	5.9
06	09	05	Vigoro Rose Food	6.1	4.1-	3.7-
10	06	04	Perk-Up Lawn Food	10.1	7.5	4.0
10	10	10	Estech Harvest King Fert	10.4	8.0-	7.7-
15	15	15	Estech Harvest King Fert	15.7	13.3-	11.6-
18	05	10	Woodace Nurs Fert Top Dress Spec	18.8	5.9	12.7
21	03	16	Slow Par Ex Release Fert w/BDV	22.2	1.4-	20.9
21	04	10	Woodace Nursery Fert	21.6	2.7-	15.1
22	03	11	Gro-Tone Crabgrass Prev/Lawn Fert	22.2	4.0	11.7
24	04	12	Par Ex with BDV Slow Release Fert	22.7-	3.7	16.4
25	03	03	Super K-Gro Weed & Feed Nor Form	29.8	3.0	4.2
10	06	04	Gro-tone Lawn Craft	10.1	6.2	4.1
Grassroots, Nature's Way, Inc.						
15	08	05	Vita Tree/Tree & Shrub Root Fd	15.3	6.2-	5.4
H. K. Webster Co., Inc.						
10	03	06	Blue Seal Turf Green - 50% Org N	12.1	3.1	7.5

TABLE 1--Continued

Manufacturer, guarantee and brand				Nutrients found, %		
				N	P ₂ O ₅	K ₂ O
Hy-Trous Corp.						
04	12	04	Hy-Trous African Violet Liq Fert	4.6	13.5	5.1
05	10	05	Hy-Trous Liquid Fert	3.9-	9.7	5.1
05	10	05	Hy-Trous Liquid Fert	5.4	10.2	5.5
Hyponex Corp.						
01	01	01	FertiLife Composted Cow Manure	1.1	1.1	1.0
05	10	05	Hyponex House Plant Food	3.7-	10.4	5.6
06	06	06	Hyponex House Plant Food	4.0-	6.4	7.4
06	06	06	Hyponex House Plant Food	6.0	6.4	6.7
06	12	06	Hyponex Plnt Fd Stks/Flow Plnts	8.0	13.1	6.3
06	18	06	Hyponex Tomato Fert Spikes	5.9	19.2	6.7
07	06	19	Hyponex Plant Food	7.6	7.2	19.8
07	06	19	Hyponex House Plant Food	7.1	6.7	19.7
08	04	02	Hyponex All-Org Fish Br Plnt Fd	8.9	7.0	2.9
10	05	05	Hyponex Bug Dart & Plant Food	13.8	5.6	6.1
10	05	05	Hyponex Foliage Plant Food Sticks	12.8	5.6	6.4
10	05	05	Hyponex Bug Dart + Plant Food	14.0	6.1	5.7
10	05	05	Hyponex Bug Dart & Plant Food	13.4	6.0	5.5
14	14	14	Hyponex Time Rel House Plnt Fd	16.0	13.8	14.8
15	10	09	Hyponex Tree & Shrub Fert Spikes	15.7	12.5	9.8
15	30	15	Hyponex Plant Food	14.8	30.8	17.0
International Spike, Inc.						
05	15	15	Jobe's Spikes/Prod Fruit Trees	11.8	17.2	18.4
08	24	08	Jobe's Fert Spikes for Prize Tom	8.4	28.4	8.3
08	24	08	Jobe's Fert Spikes for Tomatoes	10.6	24.5	9.9
08	24	08	Jobe's Fert Spikes for Tomatoes	12.5	25.3	6.2-
09	08	07	Jobe's Fert Spikes for Azaleas	9.6	9.7	7.2
09	08	07	Jobe's Fert Spikes/Azal/Cam/Rhod	14.9	10.5	9.6
10	05	05	Jobe's Spikes-Insecticide w/Fert	14.5	6.4	7.3
10	10	04	Jobe's Plant Food Spikes	12.1	11.1	4.8
10	10	04	Jobe's Plant Fd Spks/Beaut Plnts	10.1	11.7	5.5
12	06	08	Jobe's Fert Spikes/Evrgrn Trees	16.1	12.1	10.1
12	18	06	Jobe's Spikes for Roses	16.3	21.9	7.1
13	04	05	Jobe's Plant Food Spikes	12.6	5.7	7.6
13	04	05	Jobe's Plant Food Spikes	13.5	5.5	7.5
14	04	04	Jobe's Spikes for Evergreens	17.5	5.2	7.2
14	08	04	Jobe's Spikes for Flowering Shrbs	18.2	9.7	5.5
15	03	03	Jobe's Spikes for Evergreen Trees	18.2	4.0	4.9
15	05	05	Jobe's Spikes/Hlthy Young Trees	20.5	5.8	3.4-
16	02	06	Jobe's Plant Food Spikes	17.3	2.9	7.4
16	08	08	Jobe's Spikes for Beautiful Trees	20.2	11.4	10.8
20	20	20	Jobe's Plant Fd-Indr/Outdr Plnts	22.2	20.6	20.5

TABLE 1--Continued

Manufacturer, guarantee and brand				Nutrients found, %		
				N	P ₂ O ₅	K ₂ O
J. T. Baker Chemical Co.						
09	09	06	One-A-Bulb Prem Fert Tablets	9.2	9.1	7.9
09	09	06	Bag-A-Bug One-A-Bulb	11.4	9.3	6.7
Kalium Chemical						
		62	Muriate of Potash			62.5
Kenco Chemical & Mfg. Corp.						
16	04	08	Spectroicide Liquid Lawn Food	18.4	4.1	8.3
Lebanon Chem. Corp.						
09	17	09	Greenview Greenstart	11.4	16.7	9.7
30	04	04	Greenview Green Power	30.3	3.1-	4.3
30	04	04	Greenview Green Power	31.0	3.3	4.2
Lesco, Inc.						
16	04	08	Lesco Liqua-Vita Fert	16.9	4.0	8.4
Milwaukee Metropolitan Sewerage District						
06	02		Milorganite	6.4	4.0	
Nitrochem, Inc.						
34			Bull's Eye Ammonium Nitrate	34.7		
NOR-AM Chemical Co.						
38			Nitroform Blue Chip	38.6		
38			Nitroform Blue Chip	38.9		
O. M. Scott & Sons Co.						
27	03	03	Scott's Turf Builder	27.5	2.8	2.8
28	03	03	Scott's Turf Builder	28.8	3.1	3.5
28	03	03	Scott's Turf Builder	30.2	3.0	3.4
32	03	04	Scott's ProStep1 Crbgrs Prev/Fert	32.8	4.6	6.1
38			Granuform - HD	38.8		
Old Fox Chemical, Inc.,						
04	05	04	Old Fox	4.9	5.7	3.1-
04	05	04	Old Fox	5.1	7.4	4.9
04	05	04	Old Fox	5.2	6.1	4.4
04	07	08	Old Fox	5.8	7.1	11.6
04	07	08	Old Fox	5.5	8.0	10.0
04	07	08	Old Fox	4.8	8.0	12.7
04	07	08	Old Fox	5.2	8.9	12.2
04	07	08	Old Fox	5.6	7.6	10.7
04	07	08	Old Fox	5.3	7.8	12.9
04	07	08	Old Fox	5.4	8.1	12.0
04	07	08	Old Fox	5.7	7.7	11.8

TABLE 1--Continued

Manufacturer, guarantee and brand				Nutrients found, %		
				N	P ₂ O ₅	K ₂ O
Old Fox Chemical, Inc. (Continued)						
04	07	08	Old Fox	5.2	8.3	10.9
04	07	08	Old Fox	5.3	8.9	9.2
04	07	08	Old Fox	5.0	6.5	14.5
4.59	5.62	6.20	Old Fox BVHK	4.6	6.6	6.1
4.59	6.94	5.22	Old Fox HPK	4.9	10.6	6.0
4.73	5.80	4.19	Old Fox B-2	5.0	5.7	4.8
4.73	5.80	4.19	Old Fox B	5.0	6.1	5.1
4.73	5.80	4.19	Old Fox	5.8	10.8	4.4
4.73	5.80	4.19	Old Fox B-1	5.2	6.8	4.0
4.73	5.80	4.19	Old Fox B	5.1	6.3	4.5
05	10	05	Old Fox Garden Food	5.5	7.1-	5.6
05	10	05	Old Fox Garden Food	4.5	5.0-	5.1
05	10	10	Old Fox	5.4	11.0	8.5-
05	10	10	Old Fox	5.2	8.5-	7.1-
05	10	10	Old Fox	7.9	7.2-	7.9-
07	04	12	Old Fox	7.2	3.3	14.0
10	06	04	Old Fox Turf Gran 50% Org Nit	14.8	9.4	6.8
10	06	04	Old Fox Turf Food	10.2	5.2-	4.6
10	08	10	Old Fox for Tobacco	12.3	5.3	12.2
10	10	10	Old Fox	10.3	12.3	12.1
10	10	10	Old Fox	11.6	7.0-	9.4
10	10	10	Old Fox	10.3	13.6	11.2
10	20	20	Old Fox	11.9	22.0	15.9-
15	15	15	Old Fox	15.7	15.6	15.6
20	04	08	Old Fox Gro w/Org Nit	20.5	5.2	11.4
36			Old Fox SCU Brand Calcium Nitrate	38.0		
Optiflora, Inc.						
14	12	14	Optimara Violet Food	14.2	10.3-	12.3-
Plant Research Laboratories						
01	02	01	Oxygen Plus Indoor Plant Food	1.2	2.1	1.3
01	03	02	Oxygen Plus African Violet Food	1.2	3.2	2.2
01	04	02	Roger's Gard Oxy + Flower Plnt Fd	1.1	3.8	2.0
04	04	04	Oxygen Plus Outdoor Cont Plnt Fd	3.2-	3.7	5.6
Plantabbs Corp.						
11	15	20	Plantabbs House Plant Food	12.3	14.3	20.3
Rapid-Gro Corp.						
23	19	17	Ra-Pid-Gro Plant Food	24.2	18.5	18.8
23	19	17	Ra-Pid-Gro Plant Food	23.1	21.0	18.1
23	19	17	Ra-Pid-Gro House Plant Food	23.2	18.7	15.6-
23	19	17	Ra-Pid-Gro Plant Food	22.6	20.4	16.5
32	10	10	Ra-Pid-Gro Evergreen & Azalea Fd	33.3	11.3	11.2

TABLE 1--Continued

Manufacturer, guarantee and brand				Nutrients found, %		
				N	P ₂ O ₅	K ₂ O
Rockland Chemical Co.						
22	04	08	Mil-An-Chem II Turf Fert	21.3	4.5	8.8
Ross Daniels, Inc.						
05	25	10	Ross Gro-Stakes/Tom/Veg	6.9	29.2	11.9
05	25	15	Ross/Tree/Shrub Winterizer	6.5	27.8	16.4
05	35	10	Ross Plant Food Cart for Iron Def	7.6	42.7	12.1
05	35	10	Ross Plant Food Cart for Iron Def	5.9	37.9	11.3
06	12	06	Ross Plant Food Spikes Flower Pl	8.9	13.2	7.0
08	16	16	Ross Gro-Stakes/Frt/Ornam/Tr/Shrb	11.4	17.7	18.4
08	16	16	Ross Gro-Stakes/Frt/Ornam/Tr/Shrb	10.3	16.1	18.3
08	16	16	Ross Gro-Stakes/Frt/Ornam/Tr/Shrb	10.5	19.0	19.3
08	16	16	Ross Gro-Stakes Fert Frt/Ornam Tr	11.1	18.7	18.1
09	46	15	Ross Fruits/Nuts/Tom Cart	11.8	25.7-	23.7
09	46	15	Ross Plant Food/Fruit/Nuts/Tom	10.6	49.0	15.4
10	10	10	Ross Gro-Stakes/Beaut Evergreens	12.6	12.8	9.8
10	10	10	Ross Gro-Stakes/Beaut Evergreens	11.5	17.5	13.0
10	10	10	Ross Gro-Stakes Fert/Evergreens	11.8	11.7	10.6
10	20	10	Ross Planter's Punch	10.8	20.2	10.5
10	20	20	Ross Evergreens Root Feeder Cart	10.8	30.5	18.3-
14	05	05	Ross Plant Food Spikes Fol Plnts	16.0	6.1	5.6
16	04	08	Ross Gro-Stakes Fert	20.7	5.3	10.3
16	08	08	Ross Gro-Stakes for Prize Roses	17.0	8.4	10.1
16	10	09	Ross Gro-Stakes for Trees/Shrubs	17.8	10.8	9.3
16	10	09	Ross Gro-Stakes for Trees/Shrubs	16.4	10.5	9.1
16	10	09	Ross Gro-Stakes/Trees & Shrubs	18.2	10.2	9.3
16	10	09	Ross Gro-Stakes/Trees & Shrubs	18.2	9.9	8.8
Schultz Co.						
10	15	10	Schultz Instant Liquid Plant Food	10.8	15.1	10.6
Sierra Chem. Co.						
17	06	10	Sierra Controlled Release Nutr	16.4	6.8	10.4
18	06	12	Osmocote	18.0	8.3	13.7
Stern's Nurseries, Inc.						
08	07	06	Stern's Liq Miracle-Gro/Chel/Iron	8.2	7.9	6.2
08	07	06	Stern's Liquid Miracle-Gro Pl Fd	7.8	7.8	5.9
15	30	15	Stern's Miracle-Gro Plant Food	16.4	31.0	16.2
15	30	15	Miracle-Gro	18.7	32.5	15.5
15	30	15	Stern's Miracle-Gro Plant Food	16.8	30.7	14.2
18	18	21	Stern's Miracle Gro for Tomatoes	18.8	18.8	20.9
18	18	21	Stern's Miracle-Gro For Tomatoes	16.2-	18.6	21.7
30	10	10	Stern's Miracid Plant Food	31.5	10.2	11.5
30	10	10	Stern's Miracid Water Sol	30.3	9.6	9.8

TABLE 1--Continued

Manufacturer, guarantee and brand							Nutrients found, %		
							N	P ₂ O ₅	K ₂ O
The Terre Company of New Jersey, Inc.									
24	03	10	Terre Lawn Spur Fert/CrbGr	Prev	25.4	3.2	11.1		
Triple XXX Products									
07	08	05	Triple XXX Rose Maker		9.9	10.8	6.8		
09	06	05	Triple XXX Free Flow Fert		10.8	9.8	5.0		
Valagra, Inc.									
		22	Valagra				22.6		
10	20	20	Valagra		8.8-	22.8	23.6		
15	08	12	Valagra		22.1	9.3	9.4-		
15	15	15	Valagra		15.2	18.3	17.6		
W. R. Grace & Co.									
05	50	17	Peter's Pro Sol Plnt Fd/Root/Blom		7.1	51.8	20.4		
10	30	20	Peter's Prof Sol Plnt Fd/Blos/Bst		10.8	31.8	21.7		
12	36	14	Peters Prof Sol Plnt Fd/Indoor		13.3	37.8	15.7		
12	36	14	Peters Prof Sol Plnt Fd/Afr Viol		11.9	40.4	14.7		
12	36	14	Peters Prof Sol Plant Fd		13.1	40.3	14.7		
15	30	15	Peters Prof Plnt Fd/Houseplants		16.6	31.4	17.5		
15	30	15	Peters Prof House Plant Food		15.9	27.6-	18.5		
17	06	06	Peter's Prof Sol Plnt Fd/Acid Spc		21.0	6.0	4.5-		
20	20	20	Peter's Prof Sol Plnt Fd Gen Purp		20.0	20.2	19.7		
20	20	20	Peter's Prof Plant Food-Gen Purp		21.0	20.5	22.7		
21	07	07	Peter's Spec Sol Plnt Fd/In/Out		22.8	9.0	8.2		
30	10	10	Peters Prof Sol Plant Fd/Orchid		30.3	11.8	12.7		
30	10	10	Peters Prof Sol Plant Fd/Orchid		30.0	12.0	12.4		
30	10	10	Peters Prof Sol Plant Fd/Orchid		30.5	11.4	12.1		
WGM/Hydro									
15.5			Viking Ship Brand Calcium Nitrate	15.0					
15.5			Viking Ship Brand Calcium Nitrate	14.9					
15.5			Viking Ship Brand Calcium Nitrate	14.8					
15.5			Viking Ship Brand Calcium Nitrate	15.6					
15.5			Viking Ship Brand Calcium Nitrate	14.9					
15.5			Viking Ship Brand Calcium Nitrate	15.0					
15.5			Viking Ship Brand Calcium Nitrate	15.2					
15.5			Viking Ship Brand Calcium Nitrate	14.8					

TABLE 2--SUMMARY FOR EACH MANUFACTURER OF NUMBER OF CLAIMS FOR INDIVIDUAL PLANT NUTRIENTS, PERCENTAGE OF CLAIMS NOT MEETING GUARANTEE, AND AVERAGE PERCENTAGE OF GUARANTEE FOR EACH NUTRIENT

Company	Number Samples	Number of Claims			% Not Meeting Claim			Average % of Claim		
		N	P ₂ O ₅	K ₂ O	N	P ₂ O ₅	K ₂ O	N	P ₂ O ₅	K ₂ O
A.H. Hoffman	1	1	1	1	0	0	0	120	100	110
Ag. Ind. Mfg.	1	1	0	0	0	0	0	108	-	-
Agric. Prod.	2	2	2	2	0	50	0	109	85	102
Agway	24	22	23	24	5	9	13	104	110	111
Amer. Hdw. Supply	1	1	1	1	0	0	0	100	120	120
Atlas Fish Fert.	2	2	2	2	0	0	0	113	160	185
Cadwell & Jones	49	49	47	47	10	4	4	106	108	112
Cedar Point Supply	1	1	0	0	0	-	-	97	-	-
Chevron	14	14	14	14	0	0	0	115	113	113
Clarel	3	2	3	3	0	0	0	100	108	127
Clinton Nursery	5	5	5	5	20	0	0	109	113	128
Crop Prod. Serv.	19	18	19	18	11	11	22	108	111	115
Dexol Ind.	4	4	4	4	0	0	0	109	128	110
Earth Gro	1	1	1	1	0	100	100	130	60	40
Espoma	4	4	4	3	0	0	33	145	189	130
Estech	16	15	16	15	7	50	27	109	88	106
Grassroots	1	1	1	1	0	100	0	102	78	108
H.K.Webster	1	1	1	1	0	0	0	121	103	125
Hy-Trous	3	3	3	3	33	0	0	100	104	113
Hyponex	16	16	16	16	13	0	0	110	115	114
International Spike	20	20	20	20	0	0	10	130	127	126
J.T.Baker Chem.	2	2	2	2	0	0	0	114	102	122
Kalium Chem.	1	0	0	1	-	-	0	-	-	101
Kenco Chem.	1	1	1	1	0	0	0	115	102	104
Lebanon Chem.	3	3	3	3	0	33	0	110	86	107
Lesco	1	1	1	1	0	0	0	106	100	105
Milwaukee Metropol.	1	1	1	0	0	0	-	107	200	-
Nitrochem.	1	1	0	0	0	-	-	102	-	-
NOR-AM	2	2	0	0	0	-	-	102	-	-
O.M.Scott	5	5	4	4	0	0	0	103	113	119
Old Fox Chem.	37	37	36	36	0	17	14	119	110	119
Optflora	1	1	1	1	0	100	100	101	86	88
Plant Research	4	4	4	4	25	0	0	108	100	120
Plantabbs	1	1	1	1	0	0	0	112	95	102
Rapid-Gro	5	5	5	5	0	0	20	101	104	105
Rockland Chem.	1	1	1	1	0	0	0	97	113	110
Ross Daniels	23	23	23	23	0	4	4	124	114	113
Schultz	1	1	1	1	0	0	0	108	101	106
Sierra Chem.	2	2	2	2	0	0	0	98	126	109
Stern's Nursery	9	9	9	9	11	0	0	105	105	103
The Terre Co.	1	1	1	1	0	0	0	106	107	111
Triple XXX Prod.	2	2	2	2	0	0	0	131	149	118
Valagra	4	3	3	4	33	0	25	112	117	104
W.R.Grace	14	14	14	14	0	7	7	109	109	103
WGM/Hydro	8	8	0	0	0	0	0	97	-	-

TABLE 3--DISTRIBUTION OF MIXED FERTILIZERS SOLD IN CONNECTICUT JULY 1, 1985-JUNE 30, 1986

Grade	Tons	Grade	Tons	Grade	Tons
00-10-40	298	12-04-08	101	25-03-03	135
00-15-30	50	15-08-12	499	25-05-10	138
04-06-04	665	15-10-05	2	26-03-03	71
05-10-05	1081	15-10-10	1126	27-03-03	825
05-10-10	773	15-15-15	697	30-00-00	180
05-20-10	1	15-30-15	222	30-10-10	184
10-05-05	258	16-04-08	94	32-04-04	99
10-06-04	2052	16-08-08	21	32-05-07	95
10-10-10	4563	20-05-10	385	TOTAL	15944
10-15-15	79	20-10-10	48	MISCELLANEOUS	25934
10-20-10	585	20-10-20	187		
10-20-20	349	20-20-20	27	GRAND TOTAL	41878

TABLE 4--TONNAGE OF FERTILIZER MATERIAL AND MIXED FERTILIZERS SOLD IN CONNECTICUT JULY 1, 1985-JUNE 30, 1986

Commodity	Tons	Commodity	Tons
CHEMICAL NITROGEN		NATURAL ORGANICS	
Ammonium nitrate	84	Blood, dried	4.2
Ammonium phosphate nitrate	226	Blood meal	1
Ammonium sulfate	25	Cottonseed meal	1.2
Calcium nitrate	93	Manure, cow, composted	14
Nitrate of soda	3	Manure, cattle, dried	2536
Nitrogen solutions	114	Manure, poultry, dried	23
Other nitrogen materials	319	TOTAL	2579.4
Sodium nitrate	3		
Urea	3272	MULTINUTRIENT	
Ureaform	0.3	Ammoniated phosphate	49
TOTAL	4107.3	Ammoniated phosphate/sulfate	1.2
		TOTAL	50.2
PHOSPHATES		SECONDARY AND MICONUTRIENTS	
Bone meal, raw	9	Aluminum sulfate	4
Bone meal, steamed	55	Borax	16.7
Phosphate rock	5	Ferrous sulfate	0.4
Superphosphate	8.6	Greensand	2
Superphosphate, 18%	2	Iron, chelated	1
Superphosphate, 20%	3.5	Iron, liquid	67.1
Superphosphate, 40%	149	Magnesium oxide	1.4
Other phosphate materials	13	Magnesium sulfate	2
TOTAL	245.1	Sulfur	2.4
POTASH		Zinc	0.1
Muriate of potash	1930	Miscellaneous	14.7
Muriate of potash, 60%	111	TOTAL	111.8
Potassium nitrate	5.6		
Potassium sulfate	52	TOTAL---COMMODITIES	9232.4
Sulfate of potash/magnesium	7	TOTAL---COMMERCIAL FERTILIZERS	41878
Other potash	1	GRAND TOTAL	50110.4
TOTAL	2106.6		



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